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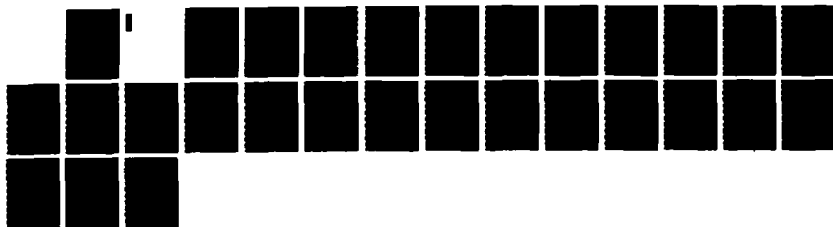
FIRE SUPPORT FOR THE LIGHT DIVISION(U) ARMY WAR COLL
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USAWC MILITARY STUDIES PROGRAM PAPER



FIRE SUPPORT FOR THE
LIGHT DIVISION

An Individual Essay

by

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ABSTRACT

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Controversy continues to swirl around the organization and employment of the light division. This paper examines the fire support available to the division. Historical examples of employments of light forces in the Falklands and Grenada are examined for lessons learned. The emphasis to fight as a combined arms team is again validated. The value of fire support in the assault echelon of a light division is particularly critical to the success of the operation. This paper examines the types of fire support with emphasis on artillery.

Overview

Many United States' interests are threatened daily. The possibility that the Armed Forces of this country will be committed to combat is real. Although general war is least likely on the spectrum of conflict, it still poses the gravest consequences. More probable are regional conflicts in Latin America, Southwest Asia or the Middle East. At a time when resources are constrained, the United States must still meet the threat. This requires carefully and efficiently built forces which can meet the challenges of a changing world.¹

The deployment of heavy forces to outlying geographical areas might well be inappropriate, if not impossible, given the limited strategic lift resources in times of crisis. A different type of force was required that could be deployed without committing the strategic reserve of the Army - the 32d Airborne Division. A new light infantry division was needed which could rapidly deploy on contingency operations using about 500 C141B aircraft sorties. The division created was the light infantry division. But what made this division strategically responsive, flexible, and easily sustainable was also done at some expense of firepower and mobility. From its inception there has been controversy as to whether this division can fight at all levels of conflict against either a light or heavy foe. This paper will examine the issues dealing with the adequacy of fire support. Is

there sufficient organic fire support available for contingency missions? What total fire support is available in a light, mid or high intensity conflict?

Background

The light division design posed special dilemmas for the early planners. The division was initially given the dual mission of deployment to regions worldwide and reinforcement of forward deployed NATO forces.² With this mission, the division faced enemy forces that would vary from light infantry to tank formations. This meant that ideally the division be well equipped with anti-armor weapons, be tactically mobile and possess excellent targeting and fire support resources; yet, the division had to be airtransportable with the minimum of strategic lift. Against a like force, the division had to be organized and equipped to attack to destroy the enemy. It could also defend, delay or disrupt in rear and urban areas. Against mechanized forces on close terrain, the division had to be capable to seize, to defend and to hold terrain. In mixed or open terrain the division had to be able to delay.³

To meet this requirement, a substantial robust force was needed. In the first design of the division in 1980, the planners used little imagination and opted for a division force structure which definitely did not take into account the limited strategic airlift.

The artillery community called for a division artillery (DIVARTY) of three direct support battalions of three batteries

of eight M198 155-mm towed howitzers, and the multiple launched rocket system.⁴ The infantry, other combat support, and service support similarly asked for a like robust force structure. This was adequate to meet the threat, but too heavy to satisfy the requirement for a strategic, flexible, and light force that could react in contingency situations. The difficulty of designing a force that could defend or delay without organic armor on open terrain against enemy attack provided design challenges that were not surmountable given the strategic lift and free constraints.⁵

The operational concept of the employment of the division had to be modified to gain this flexible, lean, and light force capable of being airlifted in about 500 C141 sorties. Thus in the final design the light division of today was borne.

The Light Division

The operational concept of the employment of the division was therefore modified. To support forward deployed forces such as NATO in the offense, the division would attack infantry only. Against motorized forces, the division would attack only on terrain favorable to the division or against a weakened enemy. In defense the division would be most effective against like infantry forces, but it could also defend against motorized forces on close terrain. No longer could the division be expected to defend in place against heavy enemy armored forces on mixed or open terrain.⁶ The division as developed now has the following strengths:

- Is strategically deployable with 500 C141B aircraft sorties. It can rapidly reinforce any theater.
- Can perform decentralized mobile operations in close terrain.
- Requires only modest logistics support.
- Can perform operations during reduced visibility.

The divisions' weaknesses are:

- Has poor tactical mobility in open terrain when opposed by motorized forces.
- Has limited protection against artillery, nuclear and chemical fires.
- Has no truly effective light or medium antitank systems for dismounted infantry.⁷
- Needs air superiority for mobility.

The organic artillery fire support available consists of three 18-gun 105-mm towed artillery direct support (DS) battalions. Currently, these are M102 howitzers with a range of 11,500 m but will be upgunned to the British lightweight gun, L119, which has a range of 17,500 m with rocket assisted projectiles (RAP).⁸ There is one eight gun M198 towed 155-mm battery with a range of 30,000 m with RAP. For target acquisition of counterbattery targets, each DS battalion is equipped with the capable Q36 radar. The fire support teams (FIST) are not laser equipped, but there are three combat observation/lasing teams in each DS battalion which provide the lasing capability.⁹

By equipping the DS battalions with the 105-mm howitzer in lieu of the 155-mm howitzer, an advantage in strategic lift is gained at the expense of a more capable weapon system. Although

the 105-mm gun is a great antipersonnel weapon with a rapid fire capability, it has limited range and unfortunately lags behind in development of improved ammunition. It has no family of scatterable mines, antitank capability except in a direct fire role, or antimaterial rounds. The other indirect fire support means are two 60-mm mortars at rifle company level and four 81-mm mortars in the light infantry battalions.¹⁰

The attack helicopter battalion and the reconnaissance squadron of the combat aviation brigade provide the division's main antiarmor defense. Of interest here to the fire planner is that the light infantry engineers have no mechanical mine-laying capability, no dump trucks and little or no terrain reinforcement potential.¹¹ This creates an additional challenge to the fire planner who must assist in the construction of the barrier plan with scatterable mines.

Threat

In the review of the TOE it becomes obvious that the division is light but has the capability to react to more likely scenarios worldwide.¹² The question now is, is it too light to sustain itself and does it have the fire support available in the initial battle? The threat is formidable. It is folly to believe that the enemy encountered is not well armed and heavily mechanized. The heavy threat is great even in areas thought of as infantry country; for example, one-third of the Nicaraguan Army is mechanized.¹³ According to the latest edition of Soviet Military Power the following may be encountered in the

most likely contingency areas which was delivered by the Soviets between 1980-85:

	NEAR EAST SOUTH ASIA	SUB-SAHARAN AFRICA	LATIN AMERICA	EAST ASIA
Tanks/SP Guns	3,600	630	505	280
Light Armor	6,565	1,000	280	250
Artillery	3,810	2,050	895	390
SAMS	10,400	1,890	1,300	430

Employment

When the light division deploys, it must be prepared to fight from the onset, even if the force is used with the hope it will only act as a deterrent. Gone are the days when the force of a superpower remains unchallenged. The mantle of protection that has cloaked a superpower from attack by lesser powers has forever disappeared once lesser nations fully realized that a superpower could not use its full arsenal of weapons and they called the superpower's bluff. Vietnam and the Marine experience in Lebanon forever destroyed that myth, if it ever did exist. The Soviet Union in its war with Afghanistan is finding this out now.

In order to fight from the onset then, the division must therefore not only consider deployment, but also survivability. Proper task organization and phasing of assault and follow-on echelons for contingency operations will be of primary importance. In the deployment phase the division which does not have a forced entry capability will normally arrive by air or sea in a landing zone secured by an advanced US force or by friendly

forces of the country involved. The assault force will then have to secure the immediate area while follow-on elements arrive. The operation will continue until the lodgement area is secured for the division.¹⁴ It is during the initial phase that the outcome of the operation is in jeopardy and the force experiences its greatest vulnerability from likely enemy counterattacks. A pure infantry force without sufficient artillery support, air or naval gunfire support would indeed do poorly against a threat likely to be encountered. The light division in particular must rely on all available fire support assets since it does not have the antitank companies of the airborne divisions nor sufficient 155-mm artillery of the air assault division. Reliance cannot be placed on only one fire support means without experiencing failure. The Israelis in the Yom Kippur war of 1973 paid dearly to learn this lesson.

Lesson of Yom Kippur War

As a result of the experience of the 1967 War when the Israelis enjoyed total air supremacy, the air force had become the premier arm in support of tanks. It was the belief held by many that tanks and aircraft could win any war. Accustomed to continuous support from the air force, other fire support was neglected. Therefore, when during the 1973 War, the Israeli air force could not accompany the armor into battle because of the air defense threat, the Israeli armor forces lost dearly. The Egyptians had learned a different lesson from the 1967 War. Realizing they could not match the Israelis in the air, the

Egyptians instead set up an effective air defense system consisting of layers and layers of surface-to-air missiles and the deadly 23-mm ZSU 23:4 antiaircraft guns. This formidable air defense system all but shut down the air force over the battlefield except for critical operations when air support was provided but at considerable expense. Without the usual air support, ground forces had to learn to rely once again on their own indirect fire support systems. But until they learned to suppress with their artillery the Saeger antitank gunners and enemy artillery positions, the Israelis paid dearly with their tanks when they fought without fire support.¹⁶

The Falkland Campaign Experience

The employment of the British expeditionary force 8,000 miles from home in the bitter mid-winter of the South Atlantic against an enemy superior in numbers and only 400 miles away from home serves on the other hand as an excellent example of proper employment of forces fighting with other arms as a combined arms team. The infantry was deployed on terrain favoring its employment. There were no roads; the ground was marshy bog. Movement was limited to marching or air movement by helicopter.¹⁷ The two brigade-sized task force had limited available fire support but used it to the maximum benefit. For example, in the victory at Goose Bay which signalled British dominance in the Falklands campaign, a British battalion supported by only three 105 howitzers with 1,000 rounds of ammunition and two 81-mm mortars defeated a reinforced dug-in Argentine battalion supported by artillery as well. The British fire support proved to

be accurate and broke the resiliency of the Argentine defense while the Argentines failed to take advantage of their artillery. The British had also planned on using the 4.5-inch gun of the frigate HMS Arrow, but because of a mechanical failure in its single gun this support became not available.¹⁸ In the subsequent march across East Falkland to Port Stanley, artillery remained practically the only means of proven fire support available. Most of the lift sorties of the helicopter transport were used to move the guns and ammunition. Naval gunfire was used but primarily to launch an harassing and interdiction campaign against the Argentines at Port Stanley. Close air support was limited, since the available Harriers had to be used to defend the fleet against fanatical Argentine air force attacks.¹⁹ The means to integrate these other means of fire support were available since both air liaison officers and naval gunfire spotters operated closely with the task force. Further, there was complete integration of maneuver and fire support practiced as "infantrymen would not move from their perimeter unless they had gunner support."²⁰

The Lessons of Urgent Fury

In contrast with the British experience in the Falklands islands, the American experience in Grenada was more frustrating on the employment of fire support. Possibly owing to the short preplanning phase and overall shortness in the campaign, the proper utilization and orchestration of fire support did not always occur. This did not detract from the overall success of

the exercise, but did provide valuable lessons for future operations. All types of fire support were available to the 82d Airborne Division task force commander and to the Ranger task force commander to include mortars, 105-mm artillery, USAF AC-130 gunships, USN A7 ground-support aircraft, and naval gunfire. Unfortunately, during the deployment the key personnel to advise the task force commander on the capabilities of the fire support means and assist him in its coordination and request failed to deploy with the assault element of the 82d Airborne Division. Both the air naval gun liaison company (ANGLICO) team and the tactical air control party (TACP) failed to be in that critical first assault element owing to the short alert time. Because of the secrecy of the operation there was no real prior pre-deployment planning done on the coordination and integration of fire support. Once the task force was on the ground the problem with naval gunfire never resolved itself for lack of communications codes and lack of adherence to joint doctrine. Although two destroyers were on station to support initially the Ranger battalions and then the 82d Airborne Division, "they did not deliver a single round of naval gunfire in support...."²¹ Support by the A7s and the AC 130 gunship in contrast did provide excellent support and during the raid at Grand Anse to rescue American medical students, coordination of fires from A7 aircraft, artillery, mortars and marine attack helicopters was executed in a flawless manner.²² The overall conclusion from this experience has been joint forces cannot be simply thrown together without having worked jointly for best utilization of arms.

Fire Support for the Assault Echelon

Having examined these last two historical examples of a light force in combat there are some conclusions that may be drawn and can serve of benefit to the task force commander of the assaulting element. Each force deployed as a task force had fire support as part of the assault element. Sometimes it was taken along at the expense of leaving maneuver forces behind, but the tough decision was made to take it. There is a need for more than one means of fire support in case one is neutralized as was seen in the Israeli experience with the loss of close air support and the British experience at Goose Bay with the loss of naval gunfire. To fight as a combined arms team, representatives from all fire support means must be present at the outset and advise the commander of the capabilities. Let the fire support coordinator of the commander coordinate their efforts.

Having said this, what forces should comprise the assault echelon of a light division? The task force commander will face a tremendous lift constraint. He may only have 30 sorties or less of C141B aircraft for his assault echelon. Certainly, in peacetime when the value of fire support cannot be clearly demonstrated, there will be a tendency to fill all aircraft with infantrymen that can storm out of the aircraft and secure the airhead. But in anticipating combat, the commander will want to include his organic mortars and at least his slice of organic field artillery of 105-mm guns. But will he include a slice of the 155-mm howitzer battery? Probably not, but a strong case may be made for the inclusion of 155-mm howitzers.

For as demoralizing as artillery and mortar fires were in the Falkland campaign, "the peat fields literally absorbed the steel splinters from exploding shells."²³ Rounds of 105-mm guns literally burst within a few meters of Argentine soldiers without killing them. The 105-mm howitzer is a great weapon for suppression and for antipersonnel but it fires a light projectile and is inadequate against a mechanized force equipped with long-range artillery as can be found in virtually all regions. Although the light forces will be upgunned with the British lightweight gun with improved range and performance, the ammunition is still not as capable as that of the 155-mm howitzer system.

To illustrate, the M198 howitzer has a range of 30 km with the rocket-assisted projectile. With the help of a Q36 counter-battery radar to acquire the target, the howitzer can engage any enemy battery that attacks the assault echelon. The 155-mm howitzer can fire an antipersonnel-antimateriel round (DPICM) which kills personnel with fragments and destroys armored personnel carriers with shaped charges capable of penetrating up to 2.75 inches of homogeneous armor plate. A significant advance has been made with the development and fielding of the cannon launched guided projectile (CLGP) or Copperhead. Finally, the artillery has a projectile that can destroy both moving and stationary armor to a range of 16,000 meters. The round has a laser seeker and guidance package which steers the projectile into the target that has been painted with an invisible coded laser beam

by an observation team equipped with a laser designator and tracker. The projectile can also be used to attack strong points. The advantages are clear: the round can be fired indirectly with no smoke or flash to give away the location of the gun or observer team.²⁴ Lasing is not only limited to an observer equipped with the ground laser locator designator (GLLD), but can also be accomplished with helicopter-borne designators.²⁵ With this projectile the task force commander has the flexibility to destroy armor across a wide front in close support and in depth. The 155-mm artillery system also owns a family of scatterable mines munition. There are two types of either antipersonnel or antitank mines, both of which have either a short (less than 24 hours) or long (more than 24 hours) self-destruct mode. With an effective range of 18,000 meters the task force commander can emplace "minefields deep behind enemy lines with no distinctive signature to alert him that mines have been laid."²⁶ The delivery of these minefields is extremely rapid and can be immediately used in response to the battle. As such, artillery scatterable mines can be employed as point minefields to disorganize the enemy, canalize him, and prevent his use of high speed avenues of approach.²⁷ A sizable antitank minefield of 250 by 300 meters can be produced by firing as little as 10 rounds of antitank projectiles.²⁸ For a target of opportunity a minefield the size 400 by 400 meters can be laid by firing as few as 24 antitank scatterable mine (SM) projectiles and 6 antipersonnel SM projectiles.²⁹ None of this ammunition is now available for the 105-mm system. Having 155-mm guns with this

ammunition available complements the 105-mm howitzers. There can be a division of labor by these artillery systems to accomplish the direct support mission. Although it is disadvantageous over a prolonged period to have composite batteries without proper support, on a temporary basis it is precisely what is needed for an assault echelon. The 105 battery or slice thereof can provide suppressive and neutralizing fires with its conventional ammunition while the 155 howitzers with the improved and smart ammunition would attack targets beyond the capabilities of the 105 howitzers.

Given the scarcity of strategic lift but considering the threat which may face the assault echelon a minimum of two howitzers sections along with a fire direction capability needs to deploy early on with the assault echelon. If deployment is made in a C141B, the aircraft can be load planned for a howitzer with prime mover along with another smaller vehicle or 463L pallet. A second aircraft would be needed for the second howitzer with the prime mover while a third aircraft can be used to carry six pallets each configured to carry approximately fifty-six complete rounds of ammunition of the types described above. If the deployment is in C130 aircraft, generally the aircraft requirement is doubled for this load.

Arguments may be raised against the concept of deploying a platoon of 155-mm comprised of two gun sections with the assault echelon for being too little to be effective, costing too much lift, or too heavy of a gun system and therefore has no place in the assault echelon. However, the experience the XVIII Corps

Artillery (provisional) has in providing support to the 82d Airborne Division during exercises since URGENT FURY, proves the concept of augmenting organic 105-mm battery support with 155-mm howitzer sections does work. This concept has been routinely exercised during emergency deployment readiness exercises (EDREs) and during the first light task force rotation at the national training center in September 1985. The support provided has varied from two gun platoons to four gun batteries or larger.

As to the charge that one platoon is insufficient to provide the fire support needed. All artillerymen recognize the value of massed fires to neutralize or possibly destroy targets, but there is a tendency to judge effectiveness only by the massive delivery of conventional high explosive rounds. Improved munitions do make single or platoon fires effective. The area coverage and effectiveness of cluster ammunition such as dual purpose improved conventional munition (DPICM) is comparable to battery fire of high explosive projectiles. The emplacement of minefields with scatterable mines (FASCAM) is not necessarily a timed mission and can be fired with one gun. Depending on the method of engagement, Copperhead projectiles are usually fired one round at a time to destroy a tank.

Admittedly, three C141B aircraft may be a considerable amount of lift for one two-gun platoon package, but if necessary it can be done with less. No artillerymen enjoys deploying a towed howitzer without its own prime mover, but that may be an option. When the 3rd Battalion, 8th Field Artillery sent a

platoon in February 1986 to Avon Park, Florida, in support of a battalion task force of the 82d Airborne Division, it had to rely on a 2½-ton truck instead of the usual 5-ton to shuttle the guns from the airfield to a nearby firing point. Obviously, this is not an ideal situation, but demonstrates the flexibility a unit must have to accommodate mission constraints.

Artillery will certainly not be the only fire support available to the assault echelon. Both close air support and naval gunfire may assist the task force to secure the lodgement area. Coordination of this support at all levels will be done by the fire support elements with the advice of members of the tactical air control party (TACP) and/or air naval gunfire liaison company (ANGLICO).³⁰ These representatives are essential to the successful employment of these fire support means. URGENT FURY clearly demonstrated what can go wrong when these members were not included in the planning process or during initial deployment. As previously mentioned, these parties were requested, but failed to arrive in time to be included in the assault echelon. Could this be prevented in future operations? Unquestionably it can, but it does require an effort by all parties concerned which must be worked out during quieter times. For instance, the XVIII Corps Artillery in a memorandum of understanding with the 82d Airborne Division agreed to be prepared to deploy a tailored M 198-equipped unit from platoon to a battalion as an attached element to the 82d Airborne Division. To ensure readiness at departure time the XVIII Corps Artillery further agreed to have ready for deployment with the designated

ready force (DRF₁) one two-gun howitzer platoon with a fire direction center 8 hours from notification of employment time (N + 8). Subsequent elements would be ready for attachment and deployment at 2-hour intervals until an entire battalion is attached to the DRF, not later than N + 48 hours. This meant the deploying unit had all of its equipment and personnel rigged and ready to go for oversea deployment for airland operations. The basic load of ammunition was palletized and waivers obtained if incompatibility of ammunition existed.

Only through rigorous training and thorough evaluations were procedures developed which ensured units were ready to deploy in a timely manner. Similarly, light divisions must develop procedures to ensure their ready battalions train with all their attachments and they will deploy with them on time in the assault echelon. If naval gunfire or naval air is considered a primary fire support means, then the ANGLICO that would habitually provide support must if necessary station a team with the battalion that is designated the assault unit to ensure making load times. In this unpredictable world when light divisions must be capable of deploying on a moment's notice, the readiness of attachments that will form the assault task force must equal that of the supported force.

The follow-on echelons of the light division can be similarly organized depending on the situation. Certainly, once elements of the organic combat aviation brigade are at hand, the antitank capability and tactical mobility of the division will be significantly enhanced.

Fire Support in a Mid to High Intensity Conflict

The fire support for a division in a mid to high intensity conflict would be allocated depending on the employment of the division. Normally, the division would operate as part of a corps or joint task force. It would not operate on terrain or in a situation for which it was not structured. It would have combat missions in rear and urban areas or any other close terrain. The division could also perform high risk operations such as stay-behind operations where elements of the division would let bypass the first echelon and then interdict that echelon's lines of communications and attack its command posts and logistical facilities.³¹

Since more than the organic fire support would be needed, the division would receive its slice of the corps' air support and additional field artillery. The Corps commander could either attach or through mission assignment make a field artillery brigade or battalions thereof responsive to the division commander. Additionally, other combat, combat service or service support could be assigned to the division to make it more robust.

Conclusion

Light infantry is the dominant arm in low intensity conflicts where rapid deployment to the conflict area will depend on its strategic deployability. A tradeoff between fighting power and strategic deployability has been made, but the light division can still fight and win. Having said this, it can only accomplish its mission by fighting as a combined arms team. This

is particularly critical in the assault phase of the operation. All fire support means must be utilized and must deploy with the assault echelon. Two-gun platoons of 155-mm howitzers with improved munitions can compensate for the limitations of the organic direct support battalion's 105-mm howitzers.

Recommendation

The corollary "to train as you would fight" is train with whom you would fight. Light task forces must train with all their attachments, to include the tactical air control party and the ANGLICO party down to battalion level. Attached elements to the task force must exercise the same degree of readiness as the assault force. Procedures must be developed to accomplish this; equipment must be uploaded and ammunition palletized to ensure timely departure with the assault echelon. During EDREs not only the ready battalion should be exercised but all of the attachments, particularly those from other units or services.

ENDNOTES

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2. A History of Army 86, Vol. II, Headquarters, US Army Training and Doctrine Command, Ft. Monroe, Va., 1981, p. 34.

3. Ibid., p. 34.

4. Ibid., pp. 32-33.

5. Ibid., p. 30.

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7. BG Wayne A. Downing, "Light Infantry Integration in Central Europe." Military Review, September 1986, pp. 20-21. There are only four TOW systems in each light infantry battalion. Also there are 18 Dragon medium antitank systems.

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24. Patrick F. Rogers, "The New Artillery." Field Artillery Journal, November-December 1980, pp. 38-39.
25. James F. Hull, "Precision Guided Artillery: First and Second Generation Projectiles." Field Artillery Journal, May-June 1981, pp. 9-10.
26. Patrick F. Rogers, p. 39.
27. MAJ Bohdan Prehar, "Artillery Scatterable Mines." Field Artillery Journal, September-October 1979, p. 10.
28. Each antitank scatterable mine round or remotely activated antitank mine (RAAM) holds nine separate mines which are disbursed over an area depending on height of burst and terminal velocity of the projectile. The mines detonate when enemy vehicle signature is detected by the magnetic sensor. The detonation causes a high velocity steel slug to perforate the tank belly armor. The antipersonnel mine or area denial artillery munitions (ADAM) holds 36 separate antipersonnel mines each deploying 20 foot tripwires. A disturbance of these wires will detonate the mines. TC 6-20-5: Field Artillery Delivered Scatterable Mines. January 1982, pp. 49-51.
29. Ibid., p. 16.
30. The air naval gunfire liaison company (ANGLICO) is a Marine unit specifically designed for support of US Army or allied divisions. It provides control and liaison agencies to the maneuver forces down to company level for the control and use of naval gunfire and Navy/Marine air support. Teams of the company are task organized with personnel and equipment to support maneuver elements, like the members of the TACP or other members of the fire support element, members of the ANGLICO advise the commander on the capabilities, limitations and employment of their fire support means that is naval gunfire and/or naval air support. FM 6-20: Fire support in Combined Arms Operations. 28 January 1983, pp. F5-F8.
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